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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,284	07/14/2008	Martin Schlegl	710.1045	8914

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EXAMINER	
TIETJEN, MARINA ANNETTE	
ART UNIT	PAPER NUMBER
3753	
MAIL DATE	DELIVERY MODE
03/30/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,284	SCHLEGL ET AL.	
	Examiner	Art Unit	
	MARINA TIETJEN	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-17 and 19-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-17 and 19-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

2. The Examiner would like to clarify the reason for withdrawal of the final rejection. The Examiner spoke with the Applicant's representative, Clint Mehall, on 02/17/2010 regarding the rejection of Meintschel (DE 10204122) in view of Keck et al (U.S. Pat. 5,054,195). The Applicant argued that Keck et al. did not disclose the step (11, figs. 5a and 5b) as defining an inner circumference of the recess (as claimed in claim 11 in the amendment filed 07/20/2009), but instead is defining the outer circumference of the recess. The Examiner agreed that Keck et al. did not meet the limitations of the claim, and therefore agreed to withdraw finality.

3. Regarding the final rejection being improper due to Meintschel et al. (DE 10204122) being in German with no translation provided with the Office Action of 12/08/2009, and wherein MPEP 706.02, subsection II, precludes the Office Action of 12/08/2009 from being a final rejection, the Examiner would like to clarify that MPEP 706.02, subsection II, only refers to prior art uncovered in searching by the Examiner. Meintschel et al. was provided in the IDS submitted 05/15/2006, and therefore the translation would be provided by the Applicant.

Response to Arguments

4. Applicant's arguments with respect to claims 11-17 and 19-23 have been considered but are moot in view of the new ground(s) of rejection. The amendments to the claims necessitated a new ground of rejection. The instant office action has been made non-final.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-17 and 19-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaiger (DE 3625590) in view of Leiber (WO 9905397).

Schwaiger discloses a lightweight valve (fig. 2) comprising:

a valve stem (see labeled fig. 2 below);

a hollow valve cone (see labeled fig. 2 below) with a hollow space (see labeled fig. 2 below) having an end of greater diameter, the end having an inner circumference, an outer circumference and an end face between the inner circumference and the outer circumference; and

a valve disk (see labeled fig. 2 below) closing the hollow space (fig. 2) on one side and having a flat side (see labeled fig. 2 below) facing the valve cone (fig. 2);

the valve stem (fig. 2) being connected to a stem connection element (labeled fig. 2) formed on or fastened to the valve disk (fig. 2);

a valve cone support (see labeled fig. 2 below) located at a distance from the valve disk (fig. 2) and provided in the hollow space (fig. 2), the valve cone support (fig. 2) being located on the stem connection element (fig. 2) and projecting above the flat side (fig. 2);

wherein the valve disk (fig. 2) has a recess (vaguely shown in fig. 2, but better shown in fig. 6) serving as a centering and supporting seat for the valve cone (fig. 2);

wherein the valve cone support (fig. 2) includes at least one supporting surface (see labeled fig. 2 above) bearingly contacting an inner wall region (see labeled fig. 2 above) of the valve cone (fig. 2);

wherein a contour of the supporting surface (fig. 2) complements the inner wall region (fig. 2);

wherein the valve cone support (fig. 2) is formed by a thickening on the stem connection element (fig. 2);

wherein the valve cone is of disk-spring-shaped design (cone creates concave shape, fig. 2);

wherein the valve cone (fig. 2) has at a smaller diameter end (see labeled fig. 2 above) a tubular projection (see labeled fig. 2 above) for guiding through the stem connection element (fig. 2);

wherein the valve cone support (fig. 2) forms a centering and supporting seat for the valve cone (fig. 2); and

wherein the valve (fig. 2) is an internal combustion engine valve.

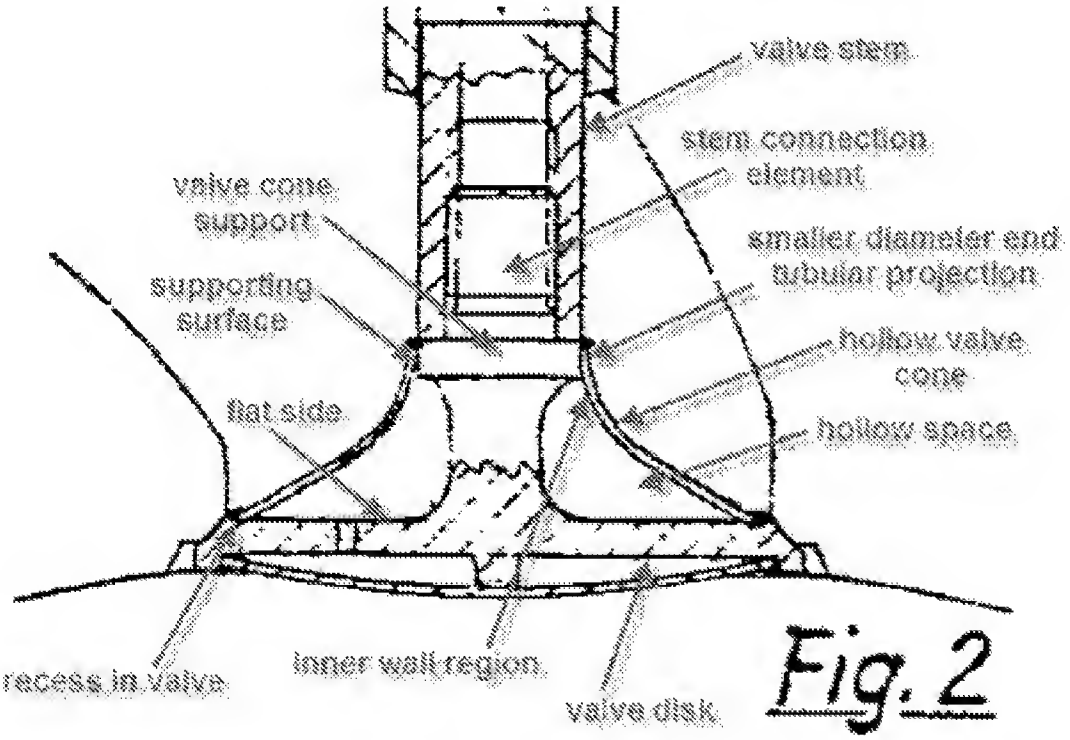


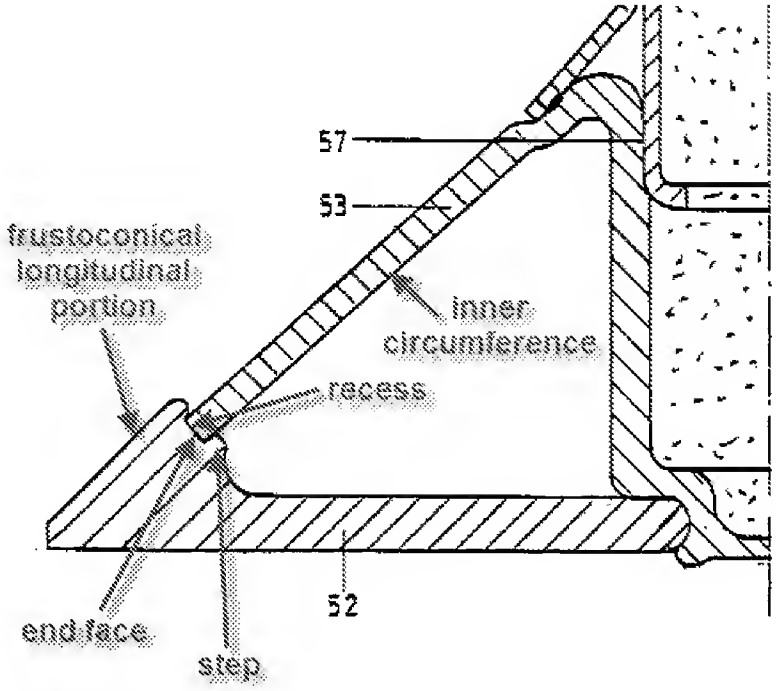
Fig. 2

However, Schwaiger does not disclose the valve disk having a longitudinal portion extending from the flat side of the valve disk, the flat side of the valve disk and the longitudinal portion defining a recess serving as a centering or supporting seat for

receiving the end of greater diameter of the valve cone, the valve disk including a step extending upward from the flat side of the valve disk, the step including an angled surface that is angled with respect to the flat side of the valve disk, the angled surface supporting the inner circumference of the end of greater diameter of the valve cone, the longitudinal portion supporting the end face of the end of greater diameter of the valve cone; wherein the longitudinal portion is frustoconical in shape; and wherein a cone angle of the frustoconical portion of the valve disk is the same as a cone angle of the valve cone at the end of greater diameter.

Leiber teaches means of attaching a valve cone (53) to a flat side of a valve disk (52), wherein the valve disk (52) has a longitudinal portion (upwardly protruding thicker portion along outer circumference of valve disk 52) extending from the flat side of the valve disk (52), the flat side of the valve disk and the longitudinal portion defining a recess (see labeled fig. 3 below) serving as a centering or supporting seat for receiving the end of greater diameter of the valve cone (53), the valve disk including a step (see labeled fig. 3 below) extending upward from the flat side of the valve disk, the step including an angled surface (surface contacting inner circumference of valve cone 53) that is angled with respect to the flat side of the valve disk, the angled surface supporting the inner circumference (see labeled fig. 3 below) of the end of greater diameter of the valve cone (53), the longitudinal portion supporting the end face (see labeled fig. 3 below) of the end of greater diameter of the valve cone; wherein the longitudinal portion is frustoconical in shape; and wherein a cone angle of the frustoconical portion of the valve disk is the same as a cone angle of the valve cone at

the end of greater diameter (as shown in fig. 3), for the purpose of providing art equivalent means for securing a valve cone to a flat valve disk.



Figur 3

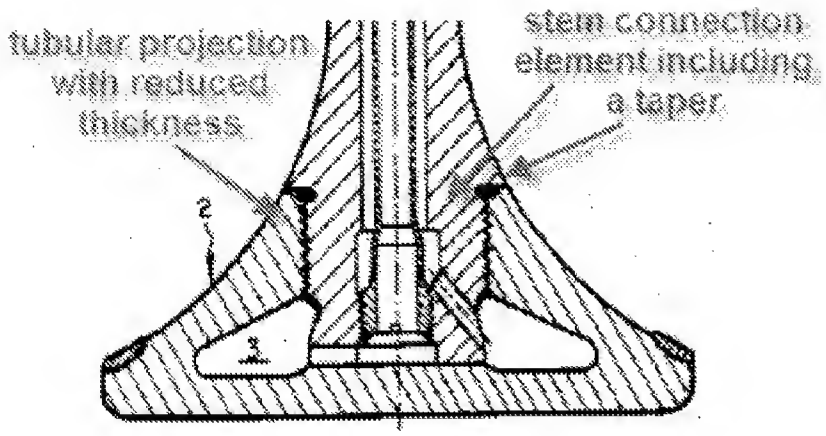
It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Schwaiger's valve cone connection to the valve disk, wherein the valve disk having a longitudinal portion extending from the flat side of the valve disk, the flat side of the valve disk and the longitudinal portion defining a recess serving as a centering or supporting seat for receiving the end of greater diameter of the valve cone, the valve disk including a step extending upward from the flat side of the valve disk, the step including an angled surface that is angled with respect to the flat side of the valve disk, the angled surface supporting the inner circumference of the end of greater diameter of the valve cone, the longitudinal portion supporting the end face of

the end of greater diameter of the valve cone; wherein the longitudinal portion is frustoconical in shape; and wherein a cone angle of the frustoconical portion of the valve disk is the same as a cone angle of the valve cone at the end of greater diameter, in the manner as taught by Leiber, since both references teach art equivalent means for securing a valve cone to a flat valve disk.

8. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaiger (DE 3625590) in view of Leiber (WO 9905397) further in view of Ysberg (U.S. Pat. No. 3,911,875).

Schwaiger discloses the invention as essentially claimed, except for wherein the tubular projection has a reduced thickness in relation to a remainder of the cone so that the tubular projection nestles against the stem connection element, and wherein the stem connection element includes a taper receiving the tubular projection such that a continuous transition is formed between the tubular projection and the stem connection element.

Ysberg teaches a cone with a tubular projection (see labeled fig. below) having a reduced thickness in relation to a remainder of the cone (2) so that the tubular projection nestles against the stem connection element (see labeled fig. below); and wherein the stem connection element includes a taper (see labeled fig. below) receiving the tubular projection, for the purpose of providing a connection means which provide a smooth transition between the valve stem and the valve cone.



It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Meintschel's valve, such that the tubular projection is a reduced thickness in relation to a remainder of the cone so that the tubular projection nestles against the stem connection element; and wherein the stem connection element includes a taper receiving the tubular projection, as taught by Ysberg, for the purpose of providing an alternate equivalent means of connection which provide a smooth transition between the valve stem and the valve cone.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARINA TIETJEN whose telephone number is (571) 270-5422. The examiner can normally be reached on Mon-Thurs, 9:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBIN EVANS can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. T./
Examiner, Art Unit 3753

/John K. Fristoe Jr./
Primary Examiner, Art Unit 3753